



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/920,767	08/03/2001	Charles Hardt	GEN-125	5939
23353	7590	07/28/2005	EXAMINER	
RADER FISHMAN & GRAUER PLLC LION BUILDING 1233 20TH STREET N.W., SUITE 501 WASHINGTON, DC 20036			CHANG, SHIRLEY	
			ART UNIT	PAPER NUMBER
			2614	

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/920,767

Applicant(s)

HARDT ET AL.

Examiner

Shirley Chang

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

### **Claim Rejections - 35 U.S.C. § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. **Claims 1-4, 6-9, 11-14, and 16-18 are rejected under 35 U.S.C. § 102(b) as being anticipated by McMullan, Jr. et al. (US 5, 142, 690).**

As to claim 1,

"A local/remote hub for communicating with at least one headend/central office; and at least one set-top terminal for receiving a CATV signal comprising a plurality of channels (met by "parameters may include the frequencies associated with each CATV channel in the system, which channels are being scrambled" (column 8, lines 57-70)) over a transmission bandwidth from the at least one headend/central office" is met by CATV Terminal 120, television 130, and headend 110 of Figure 1.

"The at least one set-top terminal including a microprocessor having a memory" is met by "Each of Models 8570, 8590 and other set-top terminals of other manufacturers normally comprise processor controllers like microprocessor 400 which all must have ports or connectors for data exchange with a module as shown in FIG. 5 or for controlling the elements of FIG. 5 when the module does not include a microprocessor. NVM 502 of FIG. 5 is adjunct non-volatile memory which simply supplements the amount of memory provided by NVM 470 and is accessed by microprocessor 400" (column 10, lines 47-58).

"A diagnostic application routine stored in the memory that determines a signal strength for a plurality of carrier frequencies of the bandwidth" The memory subsystem consists of 256K of dynamic RAM 1380 for message and variable storage, 2K of nonvolatile RAM 1370 for parameters, and sockets for 128K of EPROM 1360 for program storage" (column 37, lines 28-34). Also, "Two EPROM sockets are provided for up to 128K of program memory. These sockets can use any EPROM between 2764 and 27512. One socket is accessed by UCS and the other by MCS3. After a reset condition UCS will be active in the memory range from hex FFBFO to FFFFF. MC53 must be programmed for an active range" (column 37, lines 48-54). Furthermore, "Each 8097 has its own associated 1 k byte Dual Port RAM 1311-1341. These dual port memories are used to pass data and commands between the 8097s and the 80188. The memory includes a mechanism for bidirectional interrupts. The software can define any convenient protocol for using the memory and interrupts. EPROMS 1312-1342 is provided for program storage for the 8097's. Also, LED's 1313-1343 are provided for receiver status indicators as will be herein explained" (column 37, lines 55-63)

"And produces a visual indication of the signal strength for the plurality of carrier frequencies of the bandwidth" is met by Figure 2(column 8, lines 24-38).

As to claim 2,

The claimed "visual indication comprises a plot of carrier frequency as a function of signal strength" is met by Figure 2 (column 8, lines 24-38).

As to claim 3,

The claimed "plot provides an indication of one of Inband, Out of Band, and Data Over Cable System Integration Specification carrier frequency" is met by Figure 2 (column 8, lines 24-38).

As to claim 4,

The claimed "display means for displaying the visual indication produced by the diagnostic application routine" is met as discussed in claim 1.

As to claim 6,

The claimed "a plurality of channels over a transmission bandwidth, the set-top terminal comprising: a microprocessor having a memory; a diagnostic application routine stored in the memory of the microprocessor that determines a signal strength for a plurality of carrier frequencies of the bandwidth and produces a visual indication of the signal strength for the plurality of carrier frequencies of the bandwidth" is met as discussed in claim 1.

As to claim 7,

The claimed "visual indication comprises a plot of carrier frequency as a function of signal strength" is met as discussed in claim 2.

As to claim 8,

The claimed "plot provides an indication of one of Inband, Out of Band, and Data Over Cable System Integration Specification carrier frequency" is met as discussed in claim 3.

As to claim 9,

The claimed "display means for displaying the visual indication produced by the diagnostic application routine" is met as discussed in claim 4.

As to claim 11,

The claimed "receiving a CATV signal comprising a plurality of channels over a transmission bandwidth; determining a signal strength for a plurality of carrier frequencies of the bandwidth by utilizing a diagnostic application routine stored in a memory of the set-top terminal; and producing a visual indication of the signal strength for the plurality of carrier frequencies of the bandwidth" is met as discussed in claim 1.

As to claim 12,

The claimed "The method according to claim 11, wherein the visual indication comprises a plot of carrier frequency as a function of signal strength" is met as discussed in claim 2.

As to claim 13,

The claimed "The method according to claim 12, wherein the plot provides an indication of one of Inband, Out of Band, and Data Over Cable System Integration

Art Unit: 2614

Specification carrier frequency" is met as discussed in claim 8" is met as discussed in claim 2.

As to claim 14,

The claimed "The method according to claim 11, further comprising the step of displaying the visual indication produced by the diagnostic application routine on a display means" is met as discussed in claim 4.

As to claim 16,

The claimed "The method according to claim 11, further comprising the step of invoking the diagnostic application routine by entering a pseudo secret key sequence into the set-top terminal" is met by PASSWORD screen 1421, Figure 14a (column 39, lines 56-65). Furthermore, "The DATE/PASSWORD screen 1431 is used to begin the calibration process. A user must enter the calibration password. This password is normally different from the setup password. The password will remain in effect until "X" minutes have passed without a key press, where X is the lock time. To immediately end the time a password is active, a password of 0 may be entered"(column 41, lines 12-19). Furthermore, the password or "pseudo secret key sequence" is effectively "entered into the set-top terminal," since the application is processed by the processor, which is processed by the set-top terminal.

As to claim 17,

The claimed "the step of determining whether a selected carrier frequency is a valid carrier frequency" is met by "The Setup Command should be sent when the Setup Request flag of the Receiver Status is set. The Setup Request status flag will be cleared when a valid Setup Command has been received. If Module D (and channel D) has a valid frequency, then it will be used as the SSA (Signal Strength Analyzer) frequency" (column 28, lines 61-70). Also, "If the relative quality of certain return channels are known to vary significantly during certain periods of the day, the two categories can be used to switch one or more channels quickly and automatically at pre-programmed times. For example due to an interfering radio transmitter, channel "A" may be much better than channel "B" from 4:00 AM to 6:00 PM, but somewhat worse than channel "B" at night (6:00 PM-4:00 AM). It is then advantageous to assign channel "A" to one category and channel "B" to the other and program the system to switch to the appropriate category at 4:00 A.M. and 6:00 P.M. 49" (column 15, lines 59-70). Furthermore, "the terminal calibration status for each received terminal address is checked. For each digital set-top terminal address, the RF processor sends a LEVEL RATING of the Received Signal Strength Indicator (RSSI). This level rating is a rough indication of the integrity of the calibration. The possible values of the level rating are "High", "Low", "OK", and "Don't Know". The system manager keeps track of the number of abnormal (i.e., non-OK) level ratings received from a particular digital address. Whenever the counter is incremented past a certain threshold, the calibration status is changed to "NEEDS CAL". This threshold is the RSSI LEVEL RATING COUNTER. The default value for this threshold is preferably 12 and can be programmed from 1 to 12.



Art Unit: 2614

The RSSI Level Rating Counter can be changed by using an IPPV utility program as necessary. The system manager can also be configured to increment only on a High level rating, only on a low level rating, or on either a "high" or "low" rating. The default setting is to increment on either a level rating of "high" or "low". A level rating of "Don't Know" is ignored by the system manager. Flags which configure the increment instructions can also be changed using the IPPV utility program. In addition, the system manager can be configured to decrement the counter whenever an OK level rating is received. This feature is turned off in the default configuration of the system manager, but it can be turned on using the IPPV utility program. When this feature is enabled if the status is "Needs Cal" and the counter reaches zero, the calibration status is reset to "Calibrated" (column 26, lines 46-70).

As to claim 18,

The claimed "The method according to claim 11, wherein the signal strength of the carrier frequency is performed across an entire bandwidth of an RF input spectrum" is met by "For example, data under audio, data over audio, spread spectrum, or other techniques may be implemented over the same cable or an equivalent group of alternatives may be implemented over a switched or private telephone or power line" (column 9, lines 12-34). Also, "For example, when a system is initially set up, a spectrum analyzer can be used to find several usable 100 kHz channels in the 15.45-17.75 MHz frequency range" (column 15, lines 1-10). Furthermore, "These eight frequencies may be initially determined through spectrum analysis processes and results graphs as per FIG. 2"(column 45, lines 58).

### **Claim Rejections - 35 U.S.C. § 103**

The following is a quotation of 35 U.S.C. § 103(a), which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**2. Claims 5, 10, and 15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over McMullan, Jr. et al (5,142,690) in view of Kim ( 5,712,690), in further view of Lownes et al. (6,137,539).**

As to claim 5,

Although McMullan, Jr. et al. does not teach “display means comprising a television set operatively coupled to the at least one set-top terminal,” Kim teaches “An operation of the broadcast state self-diagnostic apparatus having such a composition explained in detail with reference to FIG. 1 and FIG. 2” (column 3, 24-27). Also, “the user can see easily by the OSD information displayed on display portion 9 that the noise is generated on the screen, because the broadcast state is abnormal, not because of trouble associated with the television” (column 4, lines 51-55). Furthermore, “The present invention relates to a self-diagnosing apparatus for determining the broadcast

Art Unit: 2614

state of a received signal and a method for such diagnosis. More particularly, the present invention relates to an apparatus and method for discriminating a broadcast state by using a horizontal synchronization signal and an automatic gain control signal of a received broadcast signal, in order to display the discriminated result on a screen" (column 1, lines 8-15). Accordingly, it would have been clearly obvious to one of ordinary skill in the art to modify the McMullan, Jr. et al. reference to include a "display means comprising a television set operatively coupled to the at least one set-top terminal," as to allow the testing procedure to be carried out with fewer equipment, and to utilize the TV screen as a display.

Furthermore, although the Kim reference doesn't specifically teach being "operatively coupled to the at least one set-top terminal," Lownes et al. teaches that "In this system configuration, a digital television receiver 90, which, in the exemplary embodiment of the invention, is a set-top box (STB)" (column 2, lines 50-65). Accordingly, it would have been clearly obvious to one of ordinary skill in the art to modify the McMullan, Jr. et al. reference to include a "display means comprising a television set operatively coupled to the at least one set-top terminal," as to allow the testing procedure to be carried out with fewer equipment, and to utilize the TV screen as a display. Furthermore, it would it would have been obvious to one of ordinary skill in the art of the time the invention was made to further modify the Kim reference so as to include a "television set operatively coupled to the at least one set-top terminal" (column 2, lines 6-11), so as to have a combination digital television set-top box, as to allow a user to operate a unitary device to facilitate implementation of the testing hardware.

Art Unit: 2614

As to claim 10,

The claimed "display means comprises a television set operatively coupled to the set-top terminal" is met as discussed in claim 5.

As to claim 15,

The claimed "The method according to claim 14, wherein the display means comprises a television set operatively coupled to the set-top terminal" is met as discussed in claim 5.

### **Conclusion**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shirley Chang whose telephone number is (571) 272-8546. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2614

SC



JOHN MILLER  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600